The partially beamformed signals produced by the microbeamformers 62 are coupled to a beamformer 64 where the beamformation process is completed. The resultant coherent echo signals along the beams are processed by filtering, amplitude detection, Doppler signal detection, and other processes by a signal processor 66. The echo signals are then processed into image signals in the coordinate system of the probe (r,θ,φ for example) by an image processor 68. The image signals are converted to a desired image format (x,y,z Cartesian coordinates, for example) by a scan converter 70. The three dimensional image data is coupled to a volume renderer 72 which renders a three dimensional view of the volumetric region 120 as seen from a selected look direction. Volume rendering is well known in the art and is described in US Pat. 5,474,073. Volume rendering may also be performed on image data which has not been scan converted as described in US Pat. 6,723,050. ~~{patent application serial number 10/026,996, filed December 19, 2001 by Alistair Dow and Paul Detmer.}~~ During two dimensional imaging the image plane data bypasses the volume renderer and is coupled directly to a video processor 76 which produces video drive signals compatible with the requirements of the display 18. The volume rendered 3D images are also coupled to the video processor 76 for display. The system can display individual volume rendered images or a series of volume rendered images showing the dynamic flow and motion of the anatomy being imaged in real time. In addition, two volume renderings can be done of a volumetric data set from slightly offset look directions, and the two displayed simultaneously on a stereoscopic display as described in US Pat. ~~{~~application serial number 10/536,643~~60/43,096 (attorney docket 020478)~~, filed ~~December 3, 2002~~November 13, 2003 by Jonathan Ziel and entitled "Method and Apparatus to Display 3D Rendered Ultrasound Data on an Ultrasound Cart in Stereovision"~~}~~. A graphics processor 74 receives either scan converted image data from the scan converter 70 or unscan-converted image data from the image processor 68 for analysis and the generation of graphics, such as visual emphasis of the tip of an interventional device or the detection of the border of an organ within the image field. The visual emphasis may be provided by an enhanced or unique brightness, color, or volume rendering process for imaging the tip of the device, for example. The resultant graphics are coupled to the video processor where they are coordinated and overlaid with the image for display.